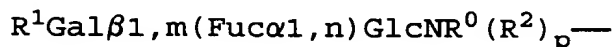


WHAT IS CLAIMED IS:

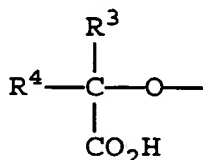
1. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound comprising a moiety which selectively binds a selectin receptor, the moiety having the formula:



in which:

R^0 is a member selected from the group consisting of $(C_1-C_8 \text{ alkyl})\text{carbonyl}$, $(C_1-C_8 \text{ alkoxy})\text{carbonyl}$, and $(C_2-C_9 \text{ alkenyloxy})\text{carbonyl}$;

R^1 is a member selected from the group consisting of an oligosaccharide and a group having the formula



in which:

R^3 and R^4 taken individually are the same or different and are selected from the group consisting of H, $C_1-C_8 \text{ alkyl}$, hydroxy- $(C_1-C_8 \text{ alkyl})$, aryl- $(C_1-C_8 \text{ alkyl})$, and $(C_1-C_8 \text{ alkoxy})$ - $(C_1-C_8 \text{ alkyl})$, substituted or unsubstituted, or

R^3 and R^4 form a single radical which is a member selected from the group consisting of $-R^5-$ and $-(R^6)_q-O-(R^7)_r-$ in which R^5 is C_3-C_7 divalent alkyl, substituted or unsubstituted, R^6 and R^7 are the same or different and are C_1-C_6 divalent alkyl, substituted or unsubstituted, and q and r are the same or different and are zero or 1 such that the sum of q and r is at least 1; the substitutions in the substituted groups being selected from the group

claim 1 of 810, 789

consisting of hydroxy, hydroxy(C₁-C₄ alkyl), polyhydroxy(C₁-C₄ alkyl), and alkanoamido;

R² is a member selected from the group consisting of H, C₁-C₈ alkyl, hydroxy-(C₁-C₈ alkyl), aryl-(C₁-C₈ alkyl), (C₁-C₈ alkyl)-aryl, alkylthio, α1,2Man, α1,6GalNAc, β1,3Galβ1,4Glc, α1,2Man-R⁸, α1,6GalNAc-R⁸, and β1,3Gal-R⁸,

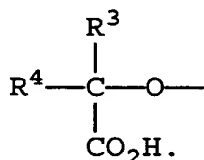
wherein R⁸ is a member selected from the group consisting of H, C₁-C₈ alkyl, C₁-C₈ alkoxy, hydroxy-(C₁-C₈ alkyl), aryl-(C₁-C₈ alkyl), (C₁-C₈ alkyl)-aryl, and alkylthio;

m is 3 or 4;

n is 3 or 4; and

p is zero or 1.

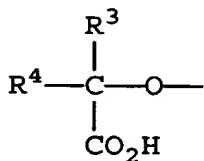
2. The composition of claim 1, wherein R¹ is a member selected from the group consisting of a trisaccharide and the group having the formula



3. The composition of claim 1, wherein R¹ is a trisaccharide.

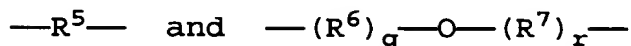
4. The composition of claim 1, wherein R¹ is a trisaccharide selected from the group consisting of NeuAcα2,3Galβ1,4GlcNAcβ1,3 and NeuGcα2,3Galβ1,4GlcNAcβ1,3.

5. The composition of claim 1, wherein R¹ is a group having the formula



2-claim 1 8/10/78

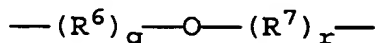
6. The composition of claim 5, wherein R^3 and R^4 form a single radical which is a member selected from the group consisting of



5 in which R^5 is C_3-C_7 divalent alkyl, substituted or unsubstituted, R^6 and R^7 are the same or different and are C_1-C_6 divalent alkyl, substituted or unsubstituted, and q and r are the same or different and are zero or 1 such that the sum of q and r is at least 1.

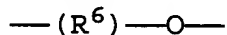
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7. The composition of claim 5, wherein R^3 and R^4 form a single radical having the formula



15 in which R^6 and R^7 are the same or different and are C_1-C_6 divalent alkyl, substituted or unsubstituted, and q and r are the same or different and are zero or 1 such that the sum of q and r is at least 1.

8. The composition of claim 5, wherein R^3 and R^4 form a single radical having the formula



in which R^6 is C_3-C_4 divalent alkyl, substituted or unsubstituted.

25

9. The composition of claim 8, wherein R^6 is $-CH_2-CH_2-CH_2-CH_2-$, substituted or unsubstituted.

10. The composition of claim 1, wherein the substitutions in the substituted groups are selected from the group consisting of hydroxy, hydroxy(C_1-C_4 alkyl), polyhydroxy(C_1-C_4 alkyl), and alkanoamido.

11. The composition of claim 10, wherein the substituted groups are selected from the group consisting of hydroxy, polyhydroxy(C_3 alkyl) acetamido and hydroxyacetamido.

12. The composition of claim 1, wherein R^1 is a monosaccharide.

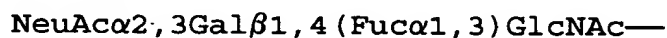
Claims 6-12
8/2/789

13. The composition of claim 12, wherein R^1 is a sialic acid.

14. The composition of claim 13, wherein the sialic acid is NeuAc α 2,3 or NeuGc α 2,3.

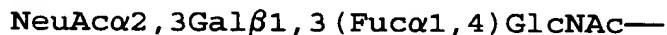
15. The composition of claim 1, wherein m is 4 and n is 3.

16. The composition of claim 15, wherein the moiety has the formula:



17. The composition of claim 1, wherein the m is 3 and n is 4.

18. The composition of claim 17, wherein the moiety has the formula:



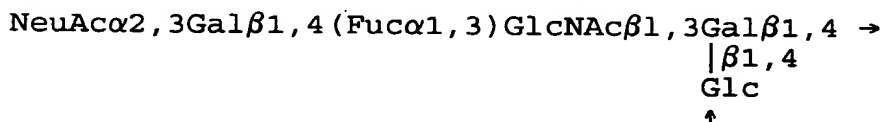
19. The composition of claim 1, wherein p is 1.

20. The composition of claim 19, wherein R^2 is $\beta 1,3\text{Gal}-R^8$, and R^8 is C_1-C_8 alkoxy.

21. The composition of claim 1, wherein the compound is a glycoprotein, a glycolipid, or polysaccharide.

22. A composition of claim 1, wherein the compound is a polysaccharide.

23. A composition of claim 22, wherein the polysaccharide comprises a repeat unit having the formula:



Claims 13-19 of 810,789

differs from 810,789

Claims 21-23 of 810,789

$$\text{NeuAc}\alpha 2,3\text{Gal}\beta 1,4(\text{Fuc}\alpha 1,3)\text{GlcNAc}\beta 1,3\text{Gal}\beta 1,4\text{Glc}\beta 1,3\text{Glc}\beta 1,2\rightarrow$$

\downarrow
 $\beta 1,6$
 Gal

$$\text{NeuAc}\alpha 2,3\text{Gal}\beta 1,4(\text{Fuc}\alpha 1,3)\text{GlcNAc}\beta 1,3\text{Gal}\beta 1,4 \rightarrow$$

26. A composition of claim 22, wherein the polysaccharide is a fucosylated type Ia polysaccharide of Group B streptococcus.

27. A composition of claim 22, wherein the polysaccharide is a type II or type III polysaccharide of Group B streptococcus.

28. A composition of claim 22, wherein the polysaccharide has molecular weight between about 5,000 and 300,000 daltons.

29. A composition of claim 22, wherein the polysaccharide comprises between about 5 and about 200 fucosylated repeat units.

30. A composition of claim 29, wherein the polysaccharide comprises between about 25 and about 100 fucosylated repeat units.

31. A composition of claim 1, wherein the compound is a sphingolipid.

32. A composition of claim 31, wherein the compound is a ganqlioside.

33. A composition of claim 1, wherein the selectin receptor is expressed on a vascular endothelial cell or a platelet.

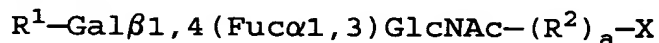
5 34. A composition of claim 33, wherein the selectin receptor is E-Selectin or P-Selectin.

10 ~~35.~~ A pharmaceutical composition which comprises a pharmaceutically acceptable carrier and a liposome having a compound which selectively binds a selectin receptor.

36. A composition of claim 35, wherein the liposome encapsulates an anti-inflammatory chemotherapeutic agent.

15 37. A composition of claim 36, wherein the anti-inflammatory agent is cyclosporin A, indomethacin, naproxen, FK-506, or mycophenolic acid.

20 38. A composition of claim 35, wherein the compound has the formula —



wherein R^1 is selected from the group consisting of NeuAc α 2,3, NeuGc α 2,3, NeuAc α 2,3Gal β 1,4GlcNAc β 1,3, and NeuGc α 2,3Gal β 1,4GlcNAc β 1,3;

25 wherein R^2 is a member selected from the group consisting of β 1,3Gal, α 1,2Man, α 1,6GalNAc, β 1,3Gal β 1,4Glc;

wherein a is 0 or 1;

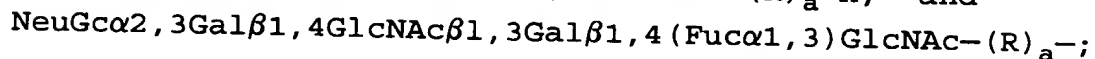
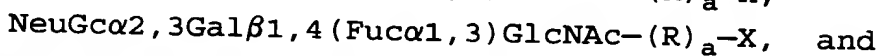
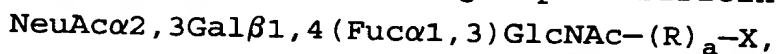
and wherein X is a protein or lipid.

30 39. A composition of claim 38, wherein X is a glycoprotein having a molecular weight between 40,000 and about 250,000 daltons.

35 40. A composition of claim 38, wherein X is a glycolipid having a molecular weight between about 600 and about 4,000 daltons.

Claims 33-46
810,789

41. A composition of claim 35, wherein the compound has a formula selected from the group consisting of:



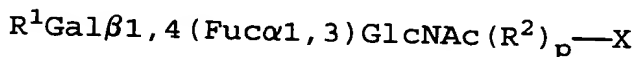
wherein R is a member selected from the group consisting of $\beta 1,3\text{Gal}$, $\alpha 1,2\text{Man}$, $\alpha 1,6\text{GalNac}$, $\beta 1,3\text{Gal}\beta 1,4\text{Glc}$;

wherein a is 0 or 1;

and wherein X is a protein or lipid.

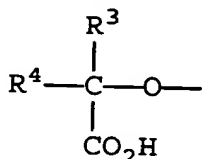
42. A composition of claim 35, wherein the selectin receptor is expressed on a vascular endothelial cell or a platelet.

43. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound which selectively binds a selectin receptor, the compound having the formula:



in which:

R^1 is a member selected from the group consisting of an oligosaccharide and a group having the formula



in which:

R^3 and R^4 taken individually are the same or different and are selected from the group consisting of H, $\text{C}_1\text{-C}_8$ alkyl, hydroxy- ($\text{C}_1\text{-C}_8$ alkyl), aryl- ($\text{C}_1\text{-C}_8$ alkyl), and ($\text{C}_1\text{-C}_8$ alkoxy)- ($\text{C}_1\text{-C}_8$ alkyl), substituted or unsubstituted, or

R^3 and R^4 form a single radical which is a member selected from the group consisting of

Claims 41-43
 8105789

—R⁵— and —(R⁶)_q—O—(R⁷)_r—
 in which R⁵ is C₃-C₇ divalent alkyl,
 substituted or unsubstituted, R⁶ and R⁷
 are the same or different and are C₁-C₆
 divalent alkyl, substituted or
 unsubstituted, and q and r are the same
 or different and are zero or 1 such
 that the sum of q and r is at least 1;
 the substitutions in the substituted groups
 being selected from the group
 consisting of hydroxy, hydroxy(C₁-C₄
 alkyl), polyhydroxy(C₁-C₄ alkyl), and
 alkanoamido;

R² is a member selected from the group consisting of
 β 1,3Gal, α 1,2Man, α 1,6GalNAc and β 1,3Gal β 1,4Glc;
 p is zero or 1; and

X is selected from the group consisting of —H, —OH,
 —NH₃, —NHR⁸, —NR⁸R⁹, —OR⁸, —OAryl, —OAlkylAryl,
 —OArylAlkyl, —Aryl, —ArylAlkyl, and —AlkylAryl, wherein R⁸
 and R⁹ are the same or different and are C₁-C₂₀ alkyl.

44. A composition of claim 43, wherein the compound
 has the formula selected from the group consisting of:

NeuAc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R²)_p,
 NeuGc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R²)_p, and
 NeuGc α 2,3Gal β 1,4GlcNAc β 1,3Gal β 1,4(Fuc α 1,3)-
 GlcNAc-(R²)_p;

wherein R² is a member selected from the group
 consisting of β 1,3Gal, α 1,2Man, α 1,6GalNAc and
 β 1,3Gal β 1,4Glc; and
 p is zero or 1.

45. A composition of claim 43, wherein the compound
 has the formula selected from the group consisting of:

NeuAc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R²)_p,
 NeuGc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R²)_p, and
 NeuGc α 2,3Gal β 1,4GlcNAc β 1,3Gal β 1,4(Fuc α 1,3)-
 GlcNAc-(R²)_p;

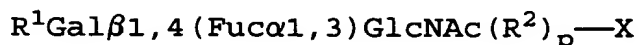
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differs from 810-789

newly
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application

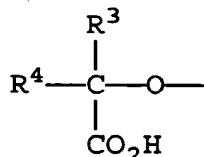
wherein R^2 is $\beta 1,3\text{Gal}$;
 X is $-\text{OR}^8$; and
 p is 1.

46. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound having two or more repeat units capable of selectively binding a selectin receptor, the repeat units comprising a selectin-binding moiety and being linked by a linker moiety, each repeat unit having the formula:



in which:

R^1 is a member selected from the group consisting of an oligosaccharide and a group having the formula



in which:

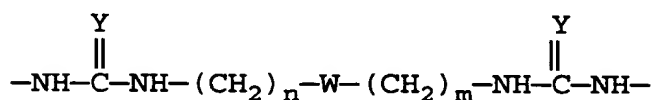
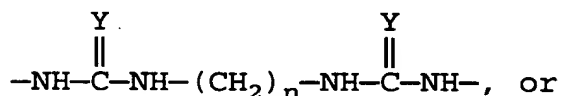
R^3 and R^4 taken individually are the same or different and are selected from the group consisting of H, C_1-C_8 alkyl, hydroxy- (C_1-C_8) alkyl, aryl- (C_1-C_8) alkyl, and (C_1-C_8) alkoxy- (C_1-C_8) alkyl, substituted or unsubstituted, or

R^3 and R^4 form a single radical which is a member selected from the group consisting of $-R^5-$ and $-(R^6)_q-O-(R^7)_r-$ in which R^5 is C_3-C_7 divalent alkyl, substituted or unsubstituted, R^6 and R^7 are the same or different and are C_1-C_6 divalent alkyl, substituted or unsubstituted, and q and r are the same or different and are zero or 1 such that the sum of q and r is at least 1;

the substitutions in the substituted groups
being selected from the group
consisting of hydroxy, hydroxy(C₁-C₄
alkyl), polyhydroxy(C₁-C₄ alkyl), and
alkanoamido;

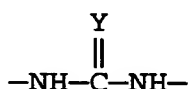
R² is a member selected from the group consisting of
β1,3Gal, α1,2Man, α1,6GalNAc and β1,3Galβ1,4Glc;
p is zero or 1; and
X is the linker moiety.

47. A composition of claim 46, wherein the linker
moiety has the formula:



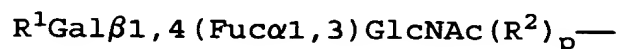
wherein, n and m are the same or different and are integers
from 2 to 12; Y is O or S; and W is O, S, or NH.

48. A composition of claim 46, wherein the linker
moiety is 5- to 14-membered ring having two substituents, each
substituent having the formula



wherein, Y is O or S; and
the substituents being in a cis- or trans-relationship.

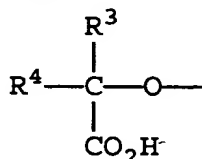
49. A pharmaceutical composition comprising a
pharmaceutically acceptable carrier and a heterocyclic
compound having two nitrogen atoms and two selectin-
binding moieties, each moiety being linked to one of
the nitrogen atoms and having the formula:



in which:

Claims
46-48
8/10/76

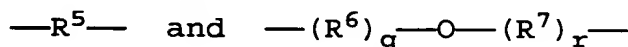
R^1 is a member selected from the group consisting of an oligosaccharide and a group having the formula



in which:

R^3 and R^4 taken individually are the same or different and are selected from the group consisting of H, C_1 - C_8 alkyl, hydroxy- (C_1 - C_8 alkyl), aryl- (C_1 - C_8 alkyl), and (C_1 - C_8 alkoxy)- (C_1 - C_8 alkyl), substituted or unsubstituted, or

R^3 and R^4 form a single radical which is a member selected from the group consisting of



in which R^5 is C_3 - C_7 divalent alkyl, substituted or unsubstituted, R^6 and R^7 are the same or different and are C_1 - C_6 divalent alkyl, substituted or unsubstituted, and q and r are the same or different and are zero or 1 such that the sum of q and r is at least 1;

the substitutions in the substituted groups being selected from the group consisting of hydroxy, hydroxy(C_1 - C_4 alkyl), polyhydroxy(C_1 - C_4 alkyl), and alkanoamido;

R^2 is a member selected from the group consisting of $\beta 1,3$ Gal, $\alpha 1,2$ Man, $\alpha 1,6$ GalNAc and $\beta 1,3$ Gal $\beta 1,4$ Glc; and

p is zero or 1.

50. A composition of claim 49, wherein the heterocyclic compound is piperazine or homopiperazine.

Claim 49
870, 784

51. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and an amino acid linked to a selectin-binding oligosaccharide moiety selected from the group consisting of

NeuAc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R)_a-,

NeuGc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R)_a-, and

NeuGc α 2,3Gal β 1,4GlcNAc β 1,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R)_a-;

wherein R is a member selected from the group consisting of β 1,3Gal, α 1,2Man, α 1,6GalNAc and β 1,3Gal β 1,4Glc; and

a is zero or 1.

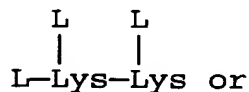
52. A composition of claim 51, wherein the amino acid is lysine, homolysine, ornithine, diaminobutyric acid, asparagine or diaminopropionic acid.

53. A composition of claim 51, wherein the amino acid is incorporated into an oligopeptide.

54. A composition of claim 53, wherein the oligopeptide comprises one or more of the following: lysine, homolysine, ornithine, diaminobutyric acid, asparagine or diaminopropionic acid.

55. A composition of claim 54, wherein the oligopeptide further comprises one or more of the following: alanine, tyrosine or radioiodinated tyrosine.

56. A composition of claim 53, wherein the oligopeptide comprises, in a direction from the N-terminus to the C-terminus,



wherein R_1 and R_2 are the same or different and are any amino acid residue and L is the oligosaccharide moiety.

57. A pharmaceutical composition for treating an inflammatory condition, the composition comprising a pharmaceutically acceptable carrier and an immunoglobulin capable of selectively binding an oligosaccharide ligand recognized by a selectin cell surface receptor, the immunoglobulin being present in an amount sufficient to treat the condition.

58. A composition of claim 57, wherein the ligand is selected from the group consisting of

NeuAc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R) $_a$ -,

NeuGc α 2,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R) $_a$ -, and

NeuGc α 2,3Gal β 1,4GlcNAc β 1,3Gal β 1,4(Fuc α 1,3)GlcNAc-(R) $_a$ -;

wherein R is a member selected from the group consisting of β 1,3Gal, α 1,2Man, α 1,6GalNAc and β 1,3Gal β 1,4Glc; and

a is zero or 1.

59. A composition of claim 57, wherein the oligosaccharide moiety is expressed by a leukocyte.

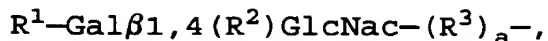
60. A composition of claim 57, wherein the selectin receptor is expressed by a vascular endothelial cell or a platelet.

61. A composition of claim 57, wherein the selectin receptor is E-Selectin or P-Selectin.

62. A composition of claim 57, wherein the composition is in unit dosage form.

63. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound comprising a

moiety which selectively binds a selectin receptor, the moiety having the formula:



wherein R^1 is NeuAc α 2,3, NeuGc α 2,3, NeuAc α 2,3, Gal β 1,4GlcNac β 1,3, or NeuGc α 2,3Gal β 1,4GlcNac β 1,3;
 wherein R^2 is Fuc α 1,3, Ara α 1,3, (R,S)-5-alkyl-Ara α 1,3 and (R,S)-5-aryl-Ara α 1,3; and
 wherein R^3 is 1,3 β Gal, 1,2 α Man, or 1,6 α GalNac and a is 0 or 1.

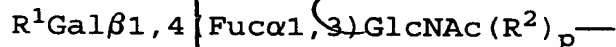
64. A composition of claim 63, wherein the compound is a biomolecule.

65. A composition of claim 63, wherein the moiety binds a selectin receptor expressed on a vascular endothelial cell or a platelet.

66. A composition of claim 63, wherein the selectin receptor is E-Selectin or P-Selectin.

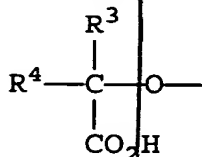
67. A method for inhibiting selectin-mediated intercellular adhesion in a patient, the method comprising administering to the patient a therapeutically effective dose of a pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound which selectively binds a selectin receptor.

68. A method of claim 67, wherein the compound comprises a moiety which selectively binds a selectin receptor, the moiety having the formula:



in which:

R^1 is a member selected from the group consisting of an oligosaccharide and a group having the formula



claims
63-78
810,789

differs from 810,789

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538

in which:

R^3 and R^4 taken individually are the same or different and are selected from the group consisting of H, C_1 - C_8 alkyl, hydroxy- (C_1 - C_8 alkyl), aryl- (C_1 - C_8 alkyl), and (C_1 - C_8 alkoxy)- (C_1 - C_8 alkyl), substituted or unsubstituted, or

R^3 and R^4 form a single radical which is a member selected from the group consisting of $-R^5-$ and $-(R^6)_q-O-(R^7)_r-$ in which R^5 is C_3 - C_7 divalent alkyl, substituted or unsubstituted, R^6 and R^7 are the same or different and are C_1 - C_6 divalent alkyl, substituted or unsubstituted, and q and r are the same or different and are zero or 1 such that the sum of q and r is at least 1; the substitutions in the substituted groups being selected from the group consisting of hydroxy, hydroxy(C_1 - C_4 alkyl), polyhydroxy(C_1 - C_4 alkyl), and alkanoamido;

R^2 is a member selected from the group consisting of $\beta 1,3Gal$, $\alpha 1,2Man$, $\alpha 1,6GalNAc$ and $\beta 1,3Gal\beta 1,4Glc$; and p is zero or 1.

69. A method of claim 67, wherein the compound is a biomolecule.

70. A method of claim 67, wherein the intercellular adhesion is associated with an inflammatory condition.

71. A method of claim 70, wherein the inflammatory condition is septic shock.

Claims
68-70
8/10/89

Claims
71-77
8/9/89
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72. A method of claim 70, wherein the inflammatory condition is acute respiratory distress syndrome or wound associated sepsis.

73. A method of claim 67, wherein the intercellular adhesion is associated with metastasis.

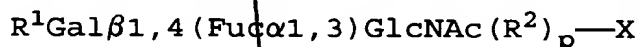
74. A method of claim 67, wherein the selectin receptor mediates adhesion of a leukocyte, monocyte or neutrophil to an endothelial cell.

75. A method of claim 67, wherein the selectin receptor is E-Selectin or P-Selectin.

76. A method of claim 67, wherein the compound is embedded in a liposome.

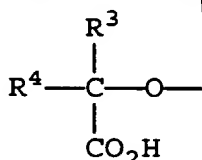
77. A method of claim 67, the compound is a polysaccharide.

78. A method of treating an inflammatory disease process mediated by a selectin receptor in a patient, the method comprising administering to the patient a therapeutically effective dose of a compound which selectively binds the receptor, the compound having the formula:



in which:

R^1 is a member selected from the group consisting of an oligosaccharide and a group having the formula



in which:

R^3 and R^4 taken individually are the same or different and are selected from the group consisting of H, C_1 - C_8 alkyl,

hydroxy- (C₁-C₈ alkyl), aryl-
(C₁-C₈ alkyl), and (C₁-C₈ alkoxy)-
(C₁-C₈ alkyl), substituted or
unsubstituted, or

R³ and R⁴ form a single radical which is a
member selected from the group
consisting of
—R⁵— and —(R⁶)_q—O—(R⁷)_r—
in which R⁵ is C₃-C₇ divalent alkyl,
substituted or unsubstituted, R⁶ and R⁷
are the same or different and are C₁-C₆
divalent alkyl, substituted or
unsubstituted, and q and r are the same
or different and are zero or 1 such
that the sum of q and r is at least 1;
the substitutions in the substituted groups
being selected from the group
consisting of hydroxy, hydroxy(C₁-C₄
alkyl), polyhydroxy(C₁-C₄ alkyl), and
alkandamido;

R² is a member selected from the group consisting of
β1,3Gal, α1,2Man, α1,6GalNAc and β1,3Galβ1,4Glc;
p is zero or 1; and
X is a biomolecule.

79. A method of claim 78, wherein X is an
oligosaccharide, an oligopeptide, a protein, or a lipid.

80. A method of claim 78, wherein the selectin
receptor is E-Selectin or P-Selectin.

81. A method of assaying a test compound for the
ability to inhibit selectin-mediated cellular adhesion, the
method comprising the steps of:

contacting the test compound with a selectin
receptor and an isolated selectin-binding agent; and
detecting the ability of the test compound to
inhibit binding between the receptor and the agent.

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78, 79, 80, 81
81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

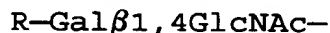
claims
81-89
810, 189
5
82. A method of claim 81, wherein the agent comprises an SLe^x moiety, or an SLe^x mimetic.

83. A method of claim 81, wherein the receptor or the agent are immobilized on a solid surface.

84. A method of claim 81, wherein the test compound is an oligosaccharide or a glycoconjugate.

10 85. A pharmaceutical composition comprising a compound capable of blocking selectin-mediated cellular adhesion, the compound being identified by the method of claim 81.

15 86. A method for preparing a compound comprising an oligosaccharide moiety capable of selectively binding a selectin receptor, the method comprising fucosylating a polysaccharide comprising a sequence having the formula:



20 wherein R is a sialic acid.

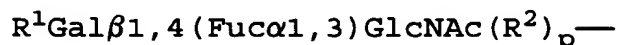
87. A method of claim 86, wherein the step of fucosylating is carried out using an $\alpha 1,3$ fucosyltransferase.

25 88. A method of claim 86, wherein the polysaccharide is a type Ia polysaccharide of Group B streptococcus.

89. A method of claim 86, wherein the polysaccharide is a type II or type III polysaccharide of Group B
30 streptococcus.

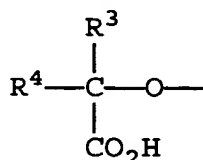
90. A method for preparing a compound comprising a plurality of moieties capable of selectively binding a selectin receptor, the method comprising linking the moieties together
35 using a linker moiety.

91. A method of claim 90, wherein the selectin receptor-binding moieties have the formula:



in which:

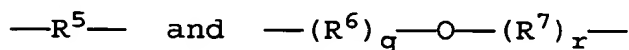
R^1 is a member selected from the group consisting of an oligosaccharide and a group having the formula



in which:

R^3 and R^4 taken individually are the same or different and are selected from the group consisting of H, C_1 - C_8 alkyl, hydroxy- (C_1 - C_8 alkyl), aryl- (C_1 - C_8 alkyl), and (C_1 - C_8 alkoxy)- (C_1 - C_8 alkyl), substituted or unsubstituted, or

R^3 and R^4 form a single radical which is a member selected from the group consisting of

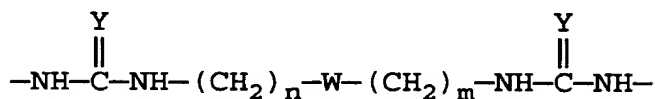
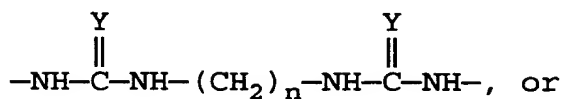


in which R^5 is C_3 - C_7 divalent alkyl, substituted or unsubstituted, R^6 and R^7 are the same or different and are C_1 - C_6 divalent alkyl, substituted or unsubstituted, and q and r are the same or different and are zero or 1 such that the sum of q and r is at least 1; the substitutions in the substituted groups being selected from the group consisting of hydroxy, hydroxy(C_1 - C_4 alkyl), polyhydroxy(C_1 - C_4 alkyl), and alkanoamido;

R^2 is a member selected from the group consisting of $\beta 1,3\text{Gal}$, $\alpha 1,2\text{Man}$, $\alpha 1,6\text{GalNAc}$ and $\beta 1,3\text{Gal}\beta 1,4\text{Glc}$; and p is zero or 1.

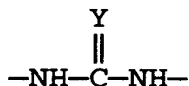
claim 90
8/10/78

92. A method of claim 90, wherein the linker moiety has the formula:



wherein, n and m are the same or different and are integers from 2 to 12; Y is O or S; and W is O, S, or NH.

93. A method of claim 90, wherein the linker moiety is 5- to 14-membered ring having two substituents, each substituent having the formula



wherein, Y is O or S; and the substituents being in a cis- or trans-relationship.

94. A method of claim 90, wherein the substituents are in a 1,2 to 1, (p/2)+1 arrangement, wherein p is an integer from 5 to 14 and corresponds to the size of the ring.

add
d'
x B6

Instant c/s 1-44 = 810,789 c/s 1-44
45 = nothing
46-94 = 45-93